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WHAT IS CLAIMED IS:

1. A composition comprising at least three proteins, wherein the proteins is selected from the group consisting of HP1, HP2, HP3 and HP4, each of said proteins comprising regions which act as antigens specific to *Helicobacter pylori*, HP1 having of molecular weight of 32 kd, HP2 having of molecular weight of 30 kd, HP3 having of molecular weight of 23 kd, and HP4 having of molecular weight of 15 kd, each of said proteins being derived from *Helicobacter pylori* bacteria.

2. A composition according to Claim 1 wherein:

11

HP1 has the sequence of

1 mkkgsiaivl gsllasgafy taladgmpak qqhnntgesv elhfhypikg kqepknshlv

61 vliepkiein kvipesyqke fekslflqls sflerkgysv sqfkdaseip qdikekallv

121 lrmdgnvail ediveesdal seekvidmss gylnlfnvvp ksedihsfg idvskikavi

181 erveirrtns ggfvpktfvh riketdhdqa irkimnqayh kvmvhitkel skkhmehyek

16

241 vssemkkrk

HP2 has the sequence of

1 mkrssvfsfl vafllvagcs hkmdnktvag dvsaktvqta pvttepapek eepkqepapv

61 veeqpavesg tiiasiyfdf dkyeikesdq etldeivqka kenhmqvllle gntdefgsse

1 121 ynqalgvkrt lsvknaIvik gvekdmihti sfgetkpkca qktrecyken rrvdvklmk

HP3 has the sequence of

1 mleksflksk qlflcglgvl mlqactcpnt sqnsflqdv pywmlqnrse yitqgvdssh

61 ivdgkkteei ekiatkrati rvaqniVhkl keaylsktnr ikqkitnemf iqmtqpiyds

121 lmnvdrlgiy inpnneevfa lvrargfdkd alseglhkms ldnqavsilv akveeifkds

6 181 vnygdvkvpi am

HP4 has the sequence of

1 mnisvnpylm avvfvvfvlI lwamnvwvyr pllafmdnrq aeikdslaki ktdnaqsvei

61 ghqieallke aaekrreiia eaiqkatesy davikqkene lnqefeafak qlqnekqalk

121 eqlqaqmpvf edelnkrvam glgs.

11 3. A composition according to claim 2, wherein each of the proteins of the composition are in purified state.

4. A composition according to claim 2, wherein all four of said proteins are present.

16 5. A composition according to claim 2, which is a combination and not a mixture of said proteins.

6. A composition according to claim 2 wherein the HP1, HP2 and HP4 proteins are present.

7. A composition according to claim 2, wherein said proteins are present

1 attached to a suitable solid phase.

8. A composition according to claim 7, wherein the solid phase is a microtiter plate.

9. A composition according to claim 8, wherein the proteins are present attached to membranes.

6 10. A composition according to claim 9 wherein the membranes are nitrocellulose or PVDF membranes.

11. A composition according to claim 7, wherein a combination and not a mixture of proteins is provided on a test strip.

12. A method for the preparation of a composition according to claim 10
11 by preparing a lysate of whole bacterial cell preparations of *Helicobacter pylori*, subjecting the lysate to gel separation and transferring the proteins to the membranes.

13. A method according to claim 12 wherein the *Helicobacter pylori* is *Helicobacter pylori* strain ATCC#43504.

16 14. A method according to claim 12 wherein the gel separation is carried out in 7.5-16.5% SDS-tricine gradient gels.

15. A method for detecting the presence of antibodies resulting from *Helicobacter pylori* infection in a biological sample, the method comprising

1 contacting the sample with a composition according to claim 2;
 permitting the sample and said composition to form an antigen-antibody
complex with respect to any antibody contained in the sample which specific to
the antigens included in the proteins of the composition;

 detecting the presence of any formed antigen-antibody complex denoting
6 the presence of *Helicobacter pylori* infection.

 16. A method according to claim 15 wherein in the step of detecting an
enzyme-conjugated anti-Human IgG antibody is used for detection of the
antigen-antibody complex.

 17. A method according to claim 16 wherein the anti-Human IgG
11 antibody is conjugated to horseradish peroxidase.

 18. A method according to claim 15 wherein in the step of detecting
gold labeled antibody is used for detection of the antigen-antibody complex.

 19. A method according to claim 15 wherein the biological sample is
human serum.

16 20. A kit for determining the presence of antibodies formed in response
to *Helicobacter pylori* infection in a biological sample, the kit comprising a
composition according to claim 2.

 21. A kit according to claim 20 wherein a combination and not a mixture

1 of the proteins is provided on a test strip.

22. A kit according to claim 20 additionally comprising a positive control, and an enzyme-conjugated antiHuman IgG antibody.

23. A kit according to claim 22 additionally comprising a suitable enzyme substrate and buffer solution.

6 24. A kit according to claim 20 comprising a test strip, wherein the composition is attached to a nitrocellulose membrane and a gold labeled antibody is used for detection.

25. In a method for determination the eradication of *Helicobacter pylori* the improvement consisting in the detection of the presence or absence of antibodies resulting from *Helicobacter pylori* infection by a method according to claim 15, before, during and after eradication treatment.

26. A method of using a combination of at least 3 proteins from *Helicobacter pylori* for detecting the presence or absence of antibodies resulting from *Helicobacter pylori* infection wherein the proteins are selected from the group consisting of HP1, HP2, HP3 and HP4, each of said proteins comprising regions which act as antigens specific to *Helicobacter pylori*, HP1 having of molecular weight of 32 kd, HP2 having of molecular weight of 30 kd, HP3 having of molecular weight of 23 kd, and HP4 having of molecular weight of 15

1 kd, each of said proteins being derived from *Helicobacter pylori* bacteria.

27. A method according to claim 26 wherein

HP1 has the sequence of

1 mkkgslaivl gsllasgafy taladgmpak qqhnntgesv elhfhypikg kqepknshlv

61 vliepkiein kvipesyqke fekslflqls sflerkgysv sqfkdaseip qdikekallv

6 121 lrm d g n v a i l e d i v e e s d a l s e e k v i d m s s g y l n l n f v e p k s e d i i h s f g i d v s k i k a v i

181 e r v e l r r t n s g g f v p k t f v h r i k e t d h d q a i r k i m n q a y h k v m v h i t k e l s k k h m e h y e k

241 v s s e m k k r k

HP2 has the sequence of

1 m k r s s v f s f l v a f l l v a g c s h k m d n k t v a g d v s a k t v q t a p v t t e p a p e k e e p k q e p a p v

11 61 v e e k p a v e s g t i i a s i y f d f d k y e i k e s d q e t l d e i v q k a k e n h m q v l l e g n t d e f g s s e

121 y n q a l g v k r t l s v k n a l v i k g v e k d m i k t i s f g e t k p k c a q k t r e c y k e n r r v d v k l m k

HP3 has the sequence of

1 m l e k s f l k s k q l f l c g l g v l m l q a c t c p n t s q r n s f l q d v p y w m l q n r s e y i t q g v d s s h

61 i v d g k k t e e i e k i a t k r a t i r v a q n i v h k l k e a y l s k t n r i k q k i t n e m f i q m t q p i y d s

16 121 l m n v d r l g i y i n p n n e e v f a l v r a r g f d k d a l s e g l h k m s l d n q a v s i l v a k v e e i f k d s

181 v n y g d v k v p i a m

HP4 has the sequence of

1 m n i s v n p y l m a v v f v v f l l l w a m n v w v y r p l l a f m d n r q a e i k d s l a k i k t d n a q s v e i

- 1 61 ghqieallke aackrreiiia eaiqkatesy davikqkene lnqefeafak qlqnekqalk
121 eqlqaqmpvf edelnkrvam glgs.